

WHAT IS CLAIMED IS:

5 1. A switch assembly for an alternating current electric circuit having
a first line and a second line, comprising:

 a first line switch conductively coupled to two separate portions of the
first line and movable between an open circuit position and a closed circuit
position, including a first connector for connecting the first line switch to a first
10 portion of the first line which is, in turn, connected to a power source, and a
second connector for connecting the first line switch to a second portion of the
first line which is, in turn, connected to a power consumer, wherein said first and
second portions of the first line are electrically connected when the first line
switch is in said closed circuit position and not electrically connected when the
15 first line switch is in said open circuit position; and

 a second line switch conductively coupled to two separate portions of
the second line and movable between an open circuit position and a closed
circuit position, including a first connector for connecting the second line switch
to a first portion of the second line which is, in turn, connected to a power
20 source, and a second connector for connecting the second line switch to a
second portion of the second line which is, in turn, connected to a power
consumer, wherein said first and second portions of the second line are
electrically connected when the second line switch is in said closed circuit
position and not electrically connected when the second line switch is in said
25 open circuit position;

 wherein the first line switch and the second line switch are adapted so
as to not to be moved into their closed circuit positions simultaneously to avoid
harmful sparks.

2. The switch assembly of claim 1, further including a shield between said first line switch and said second line switch for preventing magnetic induction of current.

5 3. The switch assembly of claim 1, further comprising a means for connecting said first and second line switches to each other such that when the second line switch is moved into its closed circuit position, the first line switch is subsequently moved into its closed circuit position.

10 4. The switch assembly of claim 3, further comprising means for connecting said first and second line switches to each other such that when the second line switch is moved into its open circuit position, the first line switch is subsequently moved into its open circuit position.

15 5. The switch assembly of claim 3, wherein the connecting means comprises a mechanical means.

20 6. The switch assembly of claim 1, further comprising a means for connecting said first and second line switches to each other such that when the first line switch is moved into its closed circuit position, the second line switch is subsequently moved into its closed circuit position.

25 7. The switch assembly of claim 6, further comprising means for connecting said first and second line switches to each other such that when the first line switch is moved into its open circuit position, the second line switch is subsequently moved into its open circuit position.

30 8. The switch assembly of claim 7, wherein the connecting means comprises a mechanical means.

9. The switch assembly of claim 1, further including a compartment comprising a first line switch portion and a second line switch portion wherein said first line switch is located within said first line switch portion and said second line switch is located within said second line switch portion.

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10. A switch assembly for an alternating current electric circuit having a first line and a second line, comprising:

a main switch movable between an open circuit position and a closed circuit position;

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a first line switch operably connected to the main switch and conductively coupled to two separate portions of the first line and movable between an open circuit position and a closed circuit position, including a first connector for connecting the first line switch to a first portion of said first line which is, in turn, connected to a power source, and a second connector for connecting the first line switch to a second portion of the first line which is, in turn, connected to a power consumer, wherein said first and second portions of the first line are electrically connected when the first line switch is in said closed circuit position and not electrically connected when the first line switch is in said open circuit position;

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a second line switch operably connected to the main switch and conductively coupled to two separate portions of the second line and movable between an open circuit position and a closed circuit position, including a first connector for connecting the second line switch to a first portion of the second line which is, in turn, connected to a power source, and a second connector for connecting the second line switch to a second portion of the second line which is, in turn, connected to a power consumer, wherein said first and second portions of the second line are electrically connected when the second line switch is in said closed circuit position and not electrically connected when the second line switch is in said open circuit position; and

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a compartment comprising a first line switch portion and a second line switch portion wherein said first line switch is located within said first line switch portion and said second line switch is located within said second line switch portion;

5 wherein the first line switch and the second line switch are adapted so as to not to be moved simultaneously into their closed circuit positions to avoid harmful sparks.

10 11. The electrical switch assembly of claim 10, further including a shield between said first line switch portion and said second line switch portion for preventing magnetic induction of current.

15 12. The switch assembly of claim 10, further comprising a means for connecting said first and second line switches to each other such that when the second line switch is moved into its closed circuit position, the first line switch is subsequently moved into its closed circuit position, and when the second line switch is moved into its open circuit position, the first line switch is subsequently moved into its open circuit position.

20 13. The switch assembly of claim 12, wherein the connecting means comprises a mechanical means.

25 14. The switch assembly of claim 10, further comprising a means for connecting said first and second line switches to each other such that when the first line switch is moved into its closed circuit position, the second line switch is subsequently moved into its closed circuit position, and when the first line switch is moved into its open circuit position, the second line switch is subsequently moved into its open circuit position.

15. The switch assembly of claim 14, wherein the connecting means comprises a mechanical means.

5 16. A method for providing alternating current electric power to a power consuming device electrically connected to a switch assembly that is, in turn, electrically connected to first and second lines of a power source, comprising the steps of:

10 moving a first line switch and a second line switch of the switch assembly from open circuit positions to closed circuit positions in a non-simultaneous manner to complete the electrical circuit between the power consuming device and the source of power while avoiding harmful sparks.

15 17. The method of claim 16, including the step of magnetically shielding the first line switch from the second line switch.

20 18. The method of claim 16, including the step of electrically connecting a main switch to the first line switch and the second line switch and providing means for moving the first line switch and second line switch into their closed circuit positions in a non-simultaneous manner as the main switch is moved to a closed circuit position.

25 19. The method of claim 18, including the step of providing means for moving the first line switch and second line switch into open circuit positions in a non-simultaneous manner as the main switch is moved to an open circuit position.